

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number  
**WO 2005/016509 A1**

(51) International Patent Classification<sup>7</sup>: **B01J 8/06**,  
8/02, C07C 51/25

Redwood Bend Trail, Houston, TX 77062 (US). **MURPHY, Carl, David** [US/US]; 5940 Hidden Valley Loop, Sandia, TX 78383 (US).

(21) International Application Number:  
PCT/US2003/023933

(81) Designated States (*national*): BR, CA, CN, JP, MX, RU, SG, US.

(22) International Filing Date: 31 July 2003 (31.07.2003)

(84) Designated States (*regional*): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(25) Filing Language: English

(26) Publication Language: English

**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

(71) Applicant (*for all designated States except US*): **DOW GLOBAL TECHNOLOGIES INC.** [US/US]; Washington Street, 1790 Building, Midland, MI 48674 (US).

**Published:**

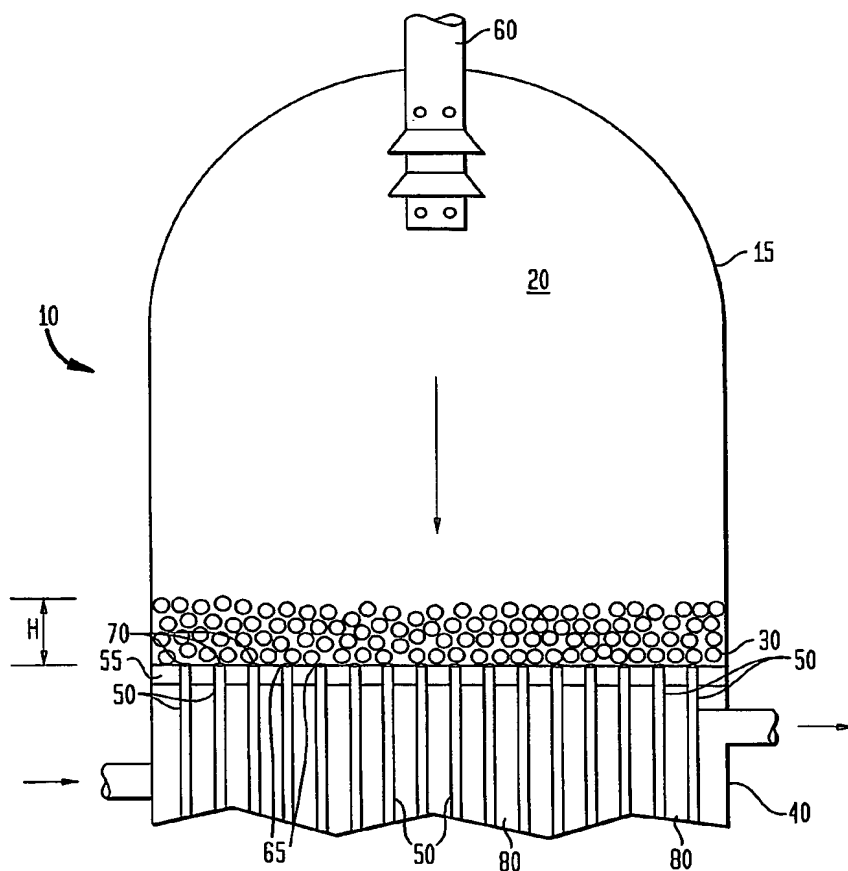
— with international search report

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **FRUCHEY, Olan, Stanley** [US/US]; 14507 Redwood Bend Trail, Houston, TX 77062 (US). **KEYES, Brian, Robert** [US/US]; 14826

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: OXIDATION PROCESS AND REACTOR WITH MODIFIED FEED SYSTEM



(57) Abstract: In an oxidation process in a shell and tube reactor (10), an improvement is disposing a short bed of packing material (30) about the tube (50) inlets. The short bed operates to direct contaminants derived from heat exchange media away from the headspace (20) and thus prevents formation of combustible gas mixtures.

WO 2005/016509 A1